

What is claimed:

1. A method to drill holes in an electric circuit substrate with the help of a laser beam, which is set via a deflection optics unit and an imaging unit to an individual drill position and subsequently guided within the area of an intended drill hole in a circular movement, the method comprising:

performing movement and centering of the laser beam axis to the individual drill position by way of a first deflection unit;

continuously modulating the circular movement onto the laser beam via a second deflection unit, the second deflection unit preceding the first deflection unit; and

turning on the laser beam when the first deflection unit is at a standstill.

2. The method according to claim 1, wherein the circular movement of the laser beam is created by two overlapping, sinusoidal movements of the second deflection unit, the sinusoidal movements being out of phase by 90°.

3. The method according to claim 1, wherein the deflection in the second deflection unit is created by overlapping more than two individual movements.

4. The method according to claim 1, wherein hystereses for deflection elements are compensated for via a modified control signal for the second deflection unit.

5. A system to drill holes in an electric circuit substrate with a laser source, a deflection optics unit and an imaging unit, to center a laser beam emitted by the laser source to a respective drill position of the substrate and trigger a circular movement within the area of an intended drill hole, comprising:

the deflection optics unit includes a first deflection unit, being guidable to respective drill positions in order to perform jumping motions;

the first deflection unit (3) is preceded by a second deflection unit (5) in the optical laser beam path, which enables the laser beam to perform a continuous circular motion; and

the laser being operable for a preset number of or-bits of the second deflection unit, when the first deflection has come to a standstill.

6. The system according to claim 5, wherein the second deflection unit is formed of at least one piezoelement.

7. The system according to claim 6, wherein the deflection unit is formed of two piezoelements, the two piezoelements being twistable around respective longitudinal, mutually perpendicular axes.

8. The system according to claim 6, wherein the second deflection unit includes one piezotripod.

9. The system according to claim 6, wherein the second deflection unit includes two in-line deflection elements being swivelable around mutually parallel axes to provide for deflection in at least one direction.

10. The method according to claim 1, wherein the deflection in the second deflection unit is created by overlapping more than two individual movements.

11. The method according to claim 2, wherein hysteresses for deflection elements are compensated for via a modified control signal for the second deflection unit.

12. The method according to claim 3, wherein hysteresses for deflection elements are compensated for via a modified control signal for the second deflection unit.